

Static Non-Articulating Knee Spacers are Associated with A High Degree of Morbidity in Challenging Clinical Scenarios

ABSTRACT

Introduction: Antibiotic laden static spacers are commonly used during the 2-stage approach for treatment of periprosthetic joint infection (PJI) after total knee arthroplasty (TKA) in the setting of bone and soft tissue compromise. The purpose of this study was to examine outcomes and morbidities associated with the use of static non-articulating spacers in challenging clinical scenarios.

Methods: From 2011-2019, 63 molded block static spacers were utilized among two academic institutions for the treatment of PJI after TKA with associated preoperative variables including severe soft tissue compromise (59%), collateral ligament deficiency (49%), extensor mechanism compromise (48%), or type 3 Anderson Orthopedic Research Institute (AORI) bone defect (44%). Complications and outcomes of static spacers were assessed.

Results: Complications with the use of static spacers were common and included further bone loss (46%), wound complications (33%), spacer migration (16%), extensor mechanism compromise (16%), cast or related soft tissue injuries (16%), periprosthetic spacer fracture (13%), and spacer fracture (3%). Ultimately, 67% of patients had a successful reimplantation (10 patients required additional surgery prior to reimplantation), 22% underwent amputation, 8% underwent arthrodesis, and two (3%) patients died after static spacer implantation. There were no differences in outcomes based upon age ($p= 0.91$), spacer time in situ ($p= 0.63$), or body mass index ($p= 0.85$).

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Conclusion: Static spacers are associated with substantial morbidity. Surgeons should anticipate notable risks associated with static spacers including progressive bone loss, wound healing complications, and extensor mechanism compromise. Alternatives to the use of static spacers in the treatment of PJI after TKA in challenging clinical scenarios may need to be considered.

Keywords: Total knee arthroplasty, static antibiotic spacers, periprosthetic joint infection, complications

Level of Evidence: III. Retrospective cohort review